AFW-4300A

400 MBPS Firewire Host Bus Adapter

User's Reference

adaptec®

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Federal Communications Commission Radio Frequency Interference Statement

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. However, if this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.
- Use a shielded and properly grounded I/O cable and power cable to ensure compliance of this unit to the specified limits of the rules.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

Adaptec, Inc. AFW-4300A

Tested to Comply
With FCC Standards

FOR HOME OR OFFICE USE

European Union Compliance Statement

This Information Technology Equipment has been tested and found to comply with the following European directives:

EMC Directive 89/336/EEC, as amended by 92/31/EEC and 93/68/EEC

EN50081-1 (1992)
EN55022 (1994) Class B
EN50082-1 (1992)
EN61000-4-2 (1998)
EN61000-4-3 (1998)
EN61000-4-4 (1995)
EN61000-4-5 (1995) Surges
EN61000-4-6 (1996) Conducted immunity
EN61000-4-11 (1994) Supply dips of variation

Australian/New Zealand Compliance Statement

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to the Australian/New Zealand standard AS/NZS 3548 set out by the Spectrum Management Agency.

Canadian Compliance Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Japanese Compliance (Voluntary Control Council Initiative)

This equipment complies to class B Information Technology equipment based on VCCI (Voluntary Control Council for Interface). This equipment is designed for home use but it may causes radio frequency interference problem if used too near to a television or radio. Please handle it correctly per this documentation.

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In this Guide

Introduction 1
System Requirements 2
About DV Technology 4
About 1394 Technology 5
Troubleshooting 6

Introduction

The Adaptec AFW-4300A Host Adapter (or AFW-4300A) is a PCI interface board that can enable your Personal Computer with IEEE-1394 functions. With the AFW-4300A, you can connect Digital Video (DV) camcorders or other devices with a 1394 digital interface to any PC compatible or Power Macintosh® computer with PCI expansion slots.

The AFW-4300A features include:

- IEEE-1394-compliance
- Up to 400 Megabits per second (Mbps) transfer rate
- Three external connectors
- Open architecture API (OHCI Compliant)
- Compatibility assurance

To install your AFW-4300A, see the AFW-4300A *Installation Guide* included in your kit.

System Requirements

The minimum system requirements for the AFW-4300A are:

PC Compatible

- IBM-compatible PC, Pentium II-266 MHz Processor or above
- Microsoft® Windows® 98 Second Edition, Microsoft Windows 2000®, Windows Me® , or Windows XP®
- CD-ROM or DVD-ROM drive
- Available PCI slot with bus-mastering enabled

Note: Refer to your system or motherboard documentation for information on enabling bus-mastering.

For Macintosh

- Mac OS 8.6 or higher
- Apple PowerMac 8600/9600 or later
- Apple FireWire® 2.4 drivers or later
- Available PCI slot
- CD-ROM or DVD-ROM drive

Additional Requirements for DV Software

- DV camcorder equipped with FireWire/1394/i LINK interface

Note: DV requires approximately 2.1 GB of hard drive space for 10 minutes of captured video.

For Windows

- 350 MHz system or faster (800 MHz recommended for video capturing)
- 64 MB RAM (128 MB or more recommended)
- DV camcorder equipped with FireWire/1394/i.LINK interface
- Output: CD-RW or DVD-R drive
- 250 MB disk space for program files
- At least 24-bit color depth and 1024 x 768 screen resolution
- 16-bit stereo sound card with speakers
- Video card with at least 4 MB RAM

For Macintosh

Please note that video software for Macintosh is not provided. The requirements for DV editing software (such as Apple iMovie, Adobe Premiere, EditDV Unplugged, or Apple Final Cut Pro) vary. Refer to the software documentation for details.

Note: For non-G3/G4 PowerPC's, full-frame, full motion video might not be possible.

About DV Technology

DV technology is a standard digital file and compression format for recording video and audio data onto a digital tape. DV uses compression to reduce the enormous size of the uncompressed video data (much like processing 30 full-screen bitmap images every second) to file sizes manageable by desktop computers.

DV digitizes and compresses video in the camera before the video is recorded to tape and transfers the data directly to a hard drive through the digital 1394 interface. In so doing, DV avoids having to use analog conversion processes that can degrade video quality.

By avoiding analog conversion processes, DV maintains a much higher level of clarity and picture quality at far lower data transfer rates than is possible with customary analog video digitizing cards.

About 1394 Technology

1394 (also known as FireWire or i.LINK) is an international standard data transfer protocol created by Apple Computer, Inc. and ratified by the International Standards Organization as IEEE 1394. Like other data I/O protocols such as SCSI, Fibre Channel, and IDE, 1394 itself knows nothing about video, compression, or editing. It is a series of standardized commands for moving data from one device to another.

1394 offers advantages that make it ideal for use with audio and video devices:

- It's fast

  It has 100/200/400 Mbps, or 12.5/25/50 MBps data transfer rates.

- It's guaranteed

  Both isochronous (guaranteed bandwidth, ensuring full-frame, full motion video, and CD-quality audio) and asynchronous data transfers.

- It's consumer friendly

  Small connectors, hot-pluggable (meaning you can connect and disconnect DV devices without rebooting a computer), and no need for terminators or setting device IDs.

- It's expandable

  Supports up to 62 devices (16 daisy-chained) with a 4.5m flexible cable between devices over a total length of up to 72m or 240 feet.

Troubleshooting

The following tips are general troubleshooting procedures:

- Check that the card is seated evenly all the way into the PCI slot.
- Check motherboard system documentation to ensure that bus mastering support is provided and enabled for the slot containing the AFW-4300A.
- Check if the card is not detected by the operating system and/or the driver fails to load, try moving the card to a different PCI slot.
- Check that the 1394 cable is properly connected between your AFW-4300A and the DV camcorder or other peripehrals.
- Check the Windows 2000 Event Log if you encounter problems loading the drivers on your Windows 2000 operating system.
- Check the Troubleshooting section of your operating system user manual.
- Check the Software Tutorial or Readme file on this CD if you encounter any problems with your software.
- For the Power Macintosh system, verify that the card is seen by the Apple System Profiler.

  To verify that the card is seen by the Apple System Profiler, follow these steps:

  1 Pull down from the Apple Menu to Apple System Profiler.

  2 Click the **Devices and Volumes** tab.

3 In the window that appears, scroll down to the **PCI** area and click the arrow next to each PCI slot to reveal the PCI card information. If the AFW-4300A is installed properly, you will see the following information listed under one of the slots:

Card type:	Not available
Card name:	pci104c,8010
Card model:	Not available
Card ROM #:	Not available
Card revision:	0
Card vendor ID:	104C

4 If the card is not seen, verify the Apple FireWire 2.4 or later extensions are loaded and enabled.

5 If the extensions are loaded and enabled, verify that the card is seated properly.

If you are still unable to resolve a problem, see the Adaptec Web site at www.adaptec.com, or the Adaptec Support Knowledgebase at ask.adaptec.com for additional troubleshooting information.

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